

The U.S. EPA 1998 Jobs Through Recycling Case Study

Introduction

The goal of the Jobs Through Recycling (JTR) 98 project was to demonstrate the environmental and economic benefits of establishing regional markets for locally generated waste. The project brought together the economic development and recycling communities to establish regional markets for recovered recyclable materials. Project tools included financial incentives, technical assistance, networking, and information-sharing.

The economic benefits of local market development include the creation of low-, medium-, and highly skilled jobs in a variety of fields (including materials handling and processing and manufacturing high-quality products). Other benefits include capital outlay from the new business development and the increased tax base from new businesses.

The environmental benefits include diversion of materials from the landfill, reduced transportation required to export materials to other states and other countries, and reduced fuel consumption. The three original objectives of the JTR project were to 1) divert 100,000 tons of recyclable materials per year from landfills, 2) establish 50 new jobs, and 3) provide \$7.5 million in capital outlay by the conclusion of the project.

The California Integrated Waste Management Board (CIWMB) created a market development partnership with the Alameda County Waste Management Authority (ACWMA) and Waste Management of Alameda County (WMAC). The partnership formed as part of a proposal to the U.S. Environmental Protection Agency (U.S. EPA) JTR program.

The CIWMB also invited the City of San Leandro and the Oakland/Berkeley Recycling Market Development Zone (RMDZ) and four nonprofit

organizations specializing in recycling business development, technical assistance, and financing to join the JTR project.

This broad partnership was formed to test the concept of an eco-industrial park. The recycling businesses would be located at—or in close proximity to—the Davis Street Material Recycling and Transfer Station (SMaRT), a WMAC materials recycling facility.

Early on, the City of San Leandro—site of the Davis Street facility—assessed infrastructure needs and revised its general plan to more easily accommodate the establishment and expansion of recycling industries.

The JTR project was initially designed as a 24-month-long project to end in October 2000. Because siting JTR businesses is a lengthy process, the CIWMB requested a time extension, which the U.S. EPA approved.

Further extensions ultimately took the project through September 30, 2003. The stakeholders worked toward siting potential JTR businesses on newly acquired property along the perimeter of the SMaRT Station (a materials recovery facility). As a result of these extensions, the JTR project ran for a total of 59 months.

The project exceeded its economic and diversion goals. Nine businesses employing more than 100 people were established. As of May 2002, capital outlay for the nine JTR businesses was \$10 million. More than 140,000 tons of materials were being diverted from the landfill annually. Based upon the maximum capacity projections for full build-out, the planned diversion for these businesses was more than 209,000 tons per year, far above the original goal.

Additional environmental benefits came in reduced air emissions and fuel consumption,

which resulted from the establishment of businesses in close proximity to one another. The nine sited businesses, the creation of more than 100 jobs, and impressive materials diversion demonstrate the benefit of coordination among local and State government and the nonprofit community development sectors. The most important gains were in the information gathered and lessons learned from the JTR's regional market model.

Circumstances That Led to the JTR 1998 Project

In 1996, all of the jurisdictions and major material collectors throughout Alameda County were actively pursuing ways to meet the State's mandated disposal reduction goal of 50 percent. Alameda County also mandates regional disposal reduction of 75 percent by the year 2010. Increasing industrial land for recycling businesses was paramount.

WMAC expressed an interest in exploring an eco-industrial park model that would locate recycling businesses at or adjacent to their Davis Street materials recovery facility (MRF), which was later developed into the SMaRT station.

During the same time period, several resource recovery-oriented businesses approached the Economic Development Alliance for Business (EDAB) to express their need for long-term use of an industrial site. EDAB has served the 14 Alameda County municipalities for ten years, providing assistance with site location, regulatory issues, and financing.

EDAB approached the U.S. EPA and other private funding sources for support of a feasibility study on eco-industrial parks. A report prepared by Brown, Vence & Associates, Inc., and Eco Development Associates made the following conclusions about local resource recovery eco-industrial parks:

- They support the stability and growth of local businesses.
- They provide for more waste diversion.

- They can be a magnet for new technologies and industrial jobs.
- They revitalize urban land.
- They demonstrate environmentally sound industrial activity.

Business Development in Alameda County: Balancing the Benefits With the Challenges

The CIWMB took note of the challenges outlined in the study and weighed these challenges against the significant resources that Alameda County could offer toward the development of establishing regional markets. Among those resources were the following.

Alameda County as the Location

The ACWMA and the Source Reduction and Recycling Board (SRRB) manage a long-range program for the development of solid waste facilities. These entities administer a variety of programs in the areas of waste reduction, market development, technical assistance, and public education. A 17-member board composed of elected officials appointed by each member agency governs the ACWMA.

Funding for the ACWMA and SRRB is derived from waste import mitigation fees and disposal fees at the Altamont, Vasco Road, and Tri-Cities landfill sites. The fees support funding assistance to public agencies, nonprofit organizations, private businesses, educational institutions, and other qualified parties. Funding is also available for innovative projects that promote source reduction and decrease the amount of waste disposed in Alameda County landfills.

In 1990, Alameda County voters passed Measure D, a ballot initiative that created the SRRB to administer its provisions and a recycling fund to pay for it. Measure D focused not just on reducing disposal, but on the establishment of sustainable discarded materials management practices. The measure also imposed waste import mitigation fees and disposal fees at the Altamont and Vasco Road landfill sites.

The 11-member SRRB and the ACWMA have collectively developed aggressive waste reduction and market development programs. The ACWMA and SRRB also offer loans to recycling businesses through a revolving loan fund, and they provide grants to nonprofits as well as for-profit recycling businesses using materials from the Alameda County waste stream.

The City of Oakland is the county's center of transportation and distribution. One of the nation's major containerized shipping facilities is located at the Port of Oakland, an indispensable connection to international market areas.

CIWMB Opportunity to Leverage Resources

Establishing a regional market in Alameda County would provide a model for other communities throughout California and the nation that are interested in recycled materials-based manufacturing. The CIWMB also identified this project as an opportunity to leverage \$2 million in its RMDZ loan funds to businesses moving or expanding in the region.

Business Development Resources: The JTR Partners

Alameda County and the San Francisco Bay Area serve as hosts to a variety of organizations with extensive experience in business development. The CIWMB utilized the federal JTR program to develop a partnership with local organizations that could recruit businesses and provide technical assistance and business planning. These resources included the following:

Environmental Protection Agency (U.S. EPA)

Through State partners, U.S. EPA's national Jobs Through Recycling program aims to stimulate recycling market development by bringing together the economic development and recycling communities through grants, networking, and information sharing.

Alameda County Waste Management Authority & Source Reduction and Recycling Board (ACWMA)

ACWMA provides countywide recycling and source reduction technical assistance, public education, market development programs, grants,

loans, and financial awards for waste reduction projects.

California Integrated Waste Management Board (CIWMB)

The CIWMB provides technical experts, a low-interest loan program for companies sited in the RMDZ, and project grant administration. It became the lead agency on the project's marketing plan.

California Technology, Trade and Commerce Agency (CTCA)

The Technology, Trade and Commerce Agency contributed \$50,000 in matching funds toward JTR 98 project.

City of San Leandro

The city proposed infrastructure improvements and potential assistance to facilitate the siting of related recycling industries in close proximity to the Davis Street Transfer Station for materials recycling and transfer.

Community Environmental Council (CEC)

CEC has extensive experience in providing hands-on assistance, business planning, market research, and site identification.

The Corporation for Manufacturing Excellence (Manex)

Manex provides technical and business solutions designed to help small and mid-sized manufacturers increase profitability and strengthen market position.

Materials for the Future Foundation (MFF)

MFF offers comprehensive enterprise development services to nonprofits and community-based enterprises, with a focus on market development to promote recycling. Their services provide a "bridge" between the environmental and community economic development fields.

Economic Development Alliance for Business (EDAB)

EDAB works to promote regional economic development partnerships between public, private, and nonprofit sectors to improve the economic viability of the East Bay.

Oakland/Berkeley Recycling Market Development Zone

Expedited permitting and referral of qualified job applicants, low-interest loans, site location assistance, and employee training.

City of Oakland and City of Berkeley

City staff tracked and analyzed business trends using several different sources: data from city business licensing, county business patterns, the State Employment Development Department, and retail sales tax receipts.

Launching a Regional Recycling Market

Land Use Limitation

The JTR partners took steps to meet the diverse siting needs of recycling businesses. Barriers included high real estate prices, the perception that recycling businesses are junkyards, the lack of access to low-interest loans, and the process and time required to permit a facility.

The potential for siting one or two businesses on private property—or on one of the six decommissioned military bases—was much higher than obtaining a piece of property for a full-scale eco-industrial park development. The reason is the scarcity of available large parcels in the county.

The boom in dot.com (Internet) companies in the Bay Area during this time inflated real estate prices, making land purchase extremely difficult. Manufacturing space averaged about \$0.58 per square foot, but high-tech companies were willing to pay four times that amount.

High-tech enterprises were viewed as more desirable by local government, because they provide higher-paying jobs and sales tax revenues. As such they are more likely to be recruited and assisted with real estate than recycling businesses.

Negotiations on a privately owned 19.5-acre parcel adjacent to the Davis Street SMaRT Station continued for nearly the entire length of the JTR project. Toward the end of 2001, the property was sold, making it possible to put out a call for tenants.

Ideally, this property could be used to site businesses that would be engaged in environmentally sound manufacturing and product development, utilizing recovered materials. The JTR partners also attempted to address the real estate challenges by working closely with the Oakland/Berkeley RMDZ and by targeting space on the decommissioned Oakland Army Base.

JTR Partners Business Recruiting Strategies

Business recruitment and information-sharing were among the most successful tools developed by JTR partners to overcome the challenges of locating businesses in Alameda County's regional market. JTR partners kept in contact by phone every two weeks and at quarterly meetings. Partners reported on existing businesses that expressed interest in expanding, potential property that was coming available, and other issues related to the siting of new businesses.

JTR partners utilized multiple business recruitment methods. For example, a direct mail campaign targeted industries in Alameda County. Follow-up phone calls were made to those businesses reached through the direct mail campaign. Articles and/or advertisements were placed in trade association newsletters, trade journals, and newspapers.

Workshop

To promote the JTR 1998 project to potential businesses, the JTR partners hosted a special workshop in November 1999. The workshop introduced the project and its goals to existing recycling businesses that might be interested in expanding, and to businesses that could convert to use of recycled feedstock. The workshop was successful in bringing together new business prospects and key local organizations. Twenty-four people representing 22 businesses attended the workshop.

Feedstock Analysis

In order to address the concerns about the availability of feedstock, the JTR partners reviewed waste characterization reports from the Davis Street SMaRT Station and analyzed the quantities of materials being processed there.

Priority Materials

Based on the feedstock analysis, the JTR partners identified a list of priority materials that comprised a significant portion of the disposed wastes in the county that were landfilled for lack of quality markets. The partners determined that wood waste, construction and demolition materials, plastics, paper, tires, glass, and computers/electronics were priority materials.

Intake Forms

Intake forms were created in order to determine permit, financing, and site needs for each business. When a business contacted (or was contacted by) one of the partners, an intake form was completed. The person conducting the intake asked about the type of feedstock required and the type of product produced. The forms provided a means for the partners to share information about businesses and to provide the appropriate business assistance.

Businesses Sited

Nine businesses have been sited under the 1998 JTR project. Two businesses were located at the Davis Street SMaRT Station, and two businesses were located on decommissioned military bases. The other five businesses are located throughout Alameda County but still in relatively close proximity to Davis Street.

The nine companies recycle a variety of material types including tires, wood, construction materials, glass, mattresses, and computers. JTR team members continue to work with private developers to site recycling businesses on the 19.5-acre property adjacent to the Davis Street facility. The businesses sited are described below.

Community Woodworks

Community Woodworks (CW) is the first Bay Area lumber mill to specialize in remanufacturing wood reclaimed through deconstruction (the process in which building materials are salvaged for reuse through careful dismantling). CW products include furniture, molding, flooring, and paneling.

Ersch Recycled Millworks

Eron Ersch is a licensed general contractor who specializes in the manufacture of interior and

exterior doors. Ersch Millworks co-located with Community Woodworks and uses the sorted, demetaled, and shaped recycled wood re-milled by CW to create specialty wood tables.

Protect All Life Forms

Protect All Life Forms (PAL) retrieves and mills urban trees into lumber, veneer, and other high-value products. This saves the trees from being cut up, sent to landfills, or chipped for fuel. With wood collected from Alameda County parks, the company creates large sculptures, healing poles, decking, flooring, and furniture.

The Reuse People

The Reuse People is a building materials exchange facility at the Davis Street property. The business accepts materials ranging from lumber to doors to windows. Contractors, businesses, homeowners, and others with materials can drop them off at the transfer station, where workers conduct on-site salvage.

Bay Area Tire Recycling

Bay Area Tire Recycling (BATR) is Northern California's first tire recycling and crumb rubber facility. BATR operates its 2,700-square-foot facility on a 0.75-acre parcel at Waste Management's SMaRT Station. The facility is capable of processing passenger and light truck tires at the rate of more than 3,000 pounds per hour.

Alameda County Computer Resource Center

The Alameda County Computer Resource Center (ACCRC) is a nonprofit organization that developed an efficient processing, disassembly, and inventorying system. ACCRC collects and refurbishes computers donated by businesses and individuals.

St. Vincent de Paul

The St. Vincent de Paul Society operates a full service mattress recycling center in Oakland. The 10,000-square-foot facility processes mattresses, box springs, couches, recliners, and hide-a-beds into recyclable polyurethane foam, shredded spring steel, shredded mixed fiber, and shredded wood. Mattresses are a problem for landfills, so St. Vincent de Paul's efforts are valuable in keeping a hard-to-recycle item out of the landfill.

Container Recycling Alliance

Container Recycling Alliance (CRA) is a state-of-the-art glass recycling facility in Union City operated by Waste Management's Recycle America division. The facility provides a steady source of high-quality, recycled glass for the Gallo Glass Company, a subsidiary of E & J Gallo Winery.

Specialty Crushing

This existing business expanded its operations at the former Oakland Army Base. Specialty Crushing now processes and remanufactures scrap concrete and asphalt from demolition and highway replacement projects. By reducing and reblending the concrete and asphalt, the company creates 100 percent recycled aggregate and base rock for new application in road-building and paving projects.

Lessons Learned

Property: It's All About Timing

The JTR 1998 partners found that timing was a key factor in matching businesses with available property. The partners learned the following:

- Finding the appropriate site and working with a business to line up financing required the partners to cultivate long-term relationships with businesses. This need extended beyond the 24-month project framework. Developing marketing plans, locating available property, and obtaining local and State permits took more time than initially anticipated.
- The JTR 1998 business recruitment efforts attracted many businesses that were in the research and development stage and would not be ready for startup within the 24-month duration of the JTR project. These businesses would benefit from the JTR partners' assistance in the later business planning through the startup stages.
- JTR partners tracked property that might become available on decommissioned military bases and major land development projects. However, the partners found that when property did become available, no qualified businesses were ready to locate. Or, when a

qualified business was ready to locate, no appropriate site was available.

Successful Business Recruitment

Recruiting businesses that utilized materials from the Davis Street SMaRT Station proved to be challenging.

The JTR partners succeeded in capturing the interest of recycling businesses from throughout the country. Once a business expressed interest in locating in Alameda County, a 30-question intake form was used to determine the needs of that particular business.

Unfortunately, the JTR partners found that they spent a significant amount of time courting businesses that were later determined either not to be appropriate for locating in Alameda County or were not economically viable. In retrospect, the JTR partners could have improved the process of assessing prospective businesses so they could more quickly refer businesses to the partner(s) with the appropriate expertise.

The JTR partners recruited businesses from a targeted Dunn & Bradstreet listing of business types and from waste trade journals, as well as from cold calling. Business leads were also acquired from non-waste-oriented trade magazines and Internet Web sites. For example, a list from the International Organization for Standardization provided leads on recycling businesses.

Also a call for tenants posted on the International Facility Management Association Web site produced results. The most successful recruitment came from the partners' personal contacts within the recycling community.

Feedstock Issues

- To provide businesses with additional feedstock sources, the project parameters were expanded to allow directing materials to a business prior to their entering the Davis Street facility. Feedstock sources were also expanded to include materials from the Berkeley Transfer Station and Alameda County cities served by that facility.

- To expand diversion, the JTR partners offered materials to recycling businesses throughout the region, not just to businesses adjacent to the Davis Street facility.
- Small businesses and large manufacturers seek feedstock materials from multiple sources to maintain flexibility and security.

Environmental and Economic Benefits

- More than 140,000 tons of waste per year is being diverted from the landfill by the nine JTR-assisted businesses.
- Six of the nine businesses utilize materials that were largely derived in Alameda County. Seven of the nine businesses use materials recovered from Alameda County and four adjacent counties. Local use of materials reduces transportation fuel consumption and air emissions.
- More than \$10 million in capital outlay has been provided in infrastructure improvement. Examples include added processing capacity in reclaimed wood, mattress recycling, and development of computer software that facilitates computer reuse.
- Three of the businesses developed innovations that utilized new recycling techniques.
- The JTR 98 project assisted businesses in developing regional niche markets to reduce their transportation costs.
- More than 100 jobs were created.
- The project generated more than \$1,770,604 in wages annually and \$18,562,897 in secondary spending.

Regional Cost and Business Financing

The JTR project was launched at a time when the Internet companies were thriving. This activity drove up the cost of real estate and labor. The JTR partners found themselves in competition with dot.coms for financial and business development resources from private financial institutions as well as from public economic development agencies.

- The CIWMB's Recycling Market Development Zone Loan program had set aside \$2 million in existing State loan funds, and Alameda County provided grants and loans. But significant gaps in financing still existed for most businesses.
- Recycling businesses are unable to take advantage of alternative financing. For example, Industrial Development Bonds, which provide low-interest financing, are not suitable for recyclers because the recyclers typically aren't able to get required letters of credit.

Next Steps

The next steps for the JTR 1998 project should include the following activities:

- Expand communication network. The CIWMB should establish a formal means of regular communication between State, local, and federal recycling business development officials as well as non-governmental organizations. This network could potentially be expanded to include community economic development departments, housing, and redevelopment staff from Alameda County.

Broadening the network would help recycling officials in making traditional business development staff aware of the potential recycling business opportunities. This would allow the recycling business development staff to leverage additional financial resources.
- Establish regular communication network among partners. Establishing regular communication with cities outside of Alameda County and targeting materials from throughout the region could prove beneficial in recruiting recycling businesses.

For instance, several of the JTR-assisted businesses also received financial support and feedstock materials from San Francisco and other counties. The JTR partners found that large manufacturers and small recycling processors frequently require feedstock supply from throughout the San Francisco Bay Area.

- Explore new definitions for recycling regions. Regional recycling markets cross jurisdictional lines to serve a watershed in which boundaries are based on factors such as types of materials available, types of businesses, business size, volume of materials needed, transportation issues, and need for specialized materials.
- Develop specialized collection systems. Six of the nine businesses received their feedstock directly from the generator. This suggests that many businesses need specialized collections.
- Standardize data collection methods. Working with other cities and counties throughout the state to develop a standard method of collecting data could prove valuable. This data could document the environmental benefits of recycling. As software-modeling tools evolve, the recycling industry will need to develop its own standards and consistent data collection methods in order to keep pace with other business sectors.

Conclusion

In exceeding each of its goals relating to recyclables diversion, job creation, and capital outlay projections, the JTR 1998 project achieved significant environmental and economic benefits through the establishment of regional recycling markets.

More than 140,000 tons per year of recyclable materials are being diverted with the projected maximum capacity of more than 209,000 tons per year. More than 100 jobs were created, and 9 businesses were started or expanded. More than \$10 million in capital outlay was provided. Three of the model businesses reduced reliance on out-of-state or foreign export of recycled feedstock.

These successes can be directly attributed to the meaningful and productive partnership of federal/State/local governments and nonprofit organizations established for this project. The diverse group of stakeholders was able to demonstrate the environmental and economic advantages that can be achieved from regional markets.

The JTR 98 project was not able to locate businesses in close proximity to the Davis Street SMaRT Station because the requisite sites were not available during this project. However, the JTR 98 project determined that providing technical assistance, financial resources, and consistent feedstock within a region creates economic and environmental benefits within that region as well as in adjacent communities.

This document was prepared by Materials for the Future Foundation for the California Integrated Waste Management Board and the U.S. Environmental Protection Agency, Region 9.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut energy costs, **Flex Your Power** and visit www.consumerenergycenter.org/flex/index.html.